

CLAIMS

What is claimed is:

1. A method for a computer system to boot itself to a known state in the event of a failure, the computer system having a physical storage device with at least a first partition  
5 and a second partition, each of the first and second partitions storing a redundant copy of a system image, the method comprising:

initiating a system boot process from a source other than the physical storage device;

- determining whether or not the computer system can complete the boot process  
10 using the system image on the first partition;

determining whether or not the computer system can complete the boot process using the system image on the second partition if it is determined the boot process cannot be completed using the system image on the first partition; and

- completing the boot process of the computer system using the system image on  
15 the second partition if it is determined that boot process can be completed from the second partition.

3. The method of claim 1 further comprising restoring the system image on each of the first and second partitions if it is determined that the boot process cannot be  
20 completed using the system image stored on either the first partition or on the second partition.

2. The method of claim 1 further comprising completing the boot process of the computer system using the system image on the first partition if it is determined that the  
25 boot process can be completed from the first partition.

7 ~~4~~ The method of claim 1, wherein the step of initiating a system boot process is implemented from an optical disk in an optical disk drive.

8 ~~5~~ <sup>7</sup> The method of claim ~~4~~, wherein the optical disk is a CD-ROM and the optical  
5 disk drive is a CD-ROM drive.

9 ~~6~~ <sup>8</sup> The method of claim ~~5~~, wherein the CD-ROM is a self bootable CD-ROM.

10 ~~7~~ <sup>9</sup> The method of claim ~~6~~, wherein the CD-ROM incorporates the El Torito Bootable  
10 CD-ROM Format Specification.

14 ~~8~~ The method of claim 1, wherein the step of determining whether or not the  
computer system can complete the boot process using the system image on the first  
partition is further comprised of verifying the integrity of a Master Boot Record and the  
15 first partition.

15 ~~9~~ <sup>14</sup> The method of claim ~~8~~, wherein the step of determining whether or not the  
computer system can complete the boot process using the system image on the first  
partition is further comprised of obtaining the result of a previous attempt to complete the  
20 boot process using the system image on the first partition.

16 ~~10~~ <sup>15</sup> The method of claim ~~9~~, wherein the step of determining whether or not the  
computer system can complete the boot process using the system image on the first  
partition is further comprised of attempting to complete the boot process using the system  
25 image on the first partition.

11. The method of claim 1, wherein the step of determining whether or not the computer system can complete the boot process using the system image on the second partition is further comprised of verifying the integrity of the second partition.

5 12. The method of claim 11, wherein the step of determining whether or not the computer system can complete the boot process using the system image on the second partition is further comprised of obtaining the result of a previous attempt to complete the boot process using the system image on the second partition.

10 13. The method of claim 12, wherein the step of determining whether or not the computer system can complete the boot process using the system image on the second partition is further comprised of attempting to complete the boot process using the system image on the second partition.

15 <sup>4</sup>~~14~~. <sup>3</sup>The method of claim ~~2~~, wherein the step of restoring the system image on each of the first and second partitions is further comprised of:

reformatting the physical storage device;

recreating the first partition and the second partition on the storage device; and

installing the system image configuration on each of the first and second

20 partitions.

<sup>5</sup>~~15~~. <sup>3</sup>The method of claim ~~2~~, further comprising:

completing the process of booting the computer system using the restored system image on one of the first and second partitions;

25 determining which one of the first and second partitions the computer system has completed the boot process from; and

generating a prompt indicative of the partition that the computer system has completed the boot process from.

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16. The method of claim <sup>5</sup>~~18~~, wherein the step of generating a prompt comprises
- 5 performing a modification to at least one of the system images on the at least two partitions.

17. A computer system capable of reliably booting itself into a known state in the event of a failure, comprising: at least one computer readable storage device with at least
- 10 a first partition and a second partition each storing a system image, wherein the system image stored on the second partition is a redundant copy of the system image stored on the first partition; a file on the computer readable storage device indicative of the status of a previous boot process performed by the computer system; and a second computer
- 15 readable storage device for storing a boot specification, wherein a boot process is initiated using the boot specification stored on the second computer readable storage device.

18. The computer system of claim 17 further comprising a logic file containing logical steps comprising the boot process.

- 20 19. The computer system of claim 18 further comprising at least one program module for performing at least one of the logical steps comprising the boot process.

20. The computer system of claim 19 further comprising at least one program module for restoring the system image on at least one of the partitions.

21. The computer system of claim 20, wherein the logic file, the program module for performing at least one of the logical steps comprising the boot process, and the program module for restoring the system image on at least one of the partitions are stored on the  
5 second computer readable storage device.

22. The computer system of claim 21, wherein the at least one readable storage device is a hard disk and the second computer readable device is a CD-ROM.

10 23. A method for a computer system to boot itself to a known state in the event of a failure, the computer system having at least one physical storage device with at least a first partition and a second partition, each of the first and second partitions containing a redundant copy of a system image, the method comprising:

executing steps stated in a logic file on a boot source other than the physical  
15 storage device with the first and second partitions, wherein the logic file contains one or more logical steps that may be performed at boot time comprising,

- (1) verifying the integrity of a Master Boot Record,
- (2) determining whether the boot process can be completed using the system image on the first partition,
- 20 (3) determining whether the boot process can be completed using the system image on the second partition, and
- (4) restoring the system image on the at least one of the first and second partitions if the boot process cannot be completed from either the first or the second partition; and

25 booting the system to a known state as a result of executing the logical steps in the logic file on the boot source other than the physical storage device.

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24. The method of claim 23, wherein the boot source is a self bootable CD-ROM.

25. The method of claim 24, wherein the CD-ROM incorporates the El Torito Bootable CD-ROM Format Specification.

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26. The method of claim 23, wherein the logical step of determining whether the boot process can be completed using the system image on the first partition is further comprised of:

verifying the integrity of the first partition; and

10 obtaining the result of a previous attempt to complete the boot process using the system image on the first partition.

27. The method of claim 26, wherein the logical step of determining whether the boot process can be completed using the system image on the second partition is further comprised of:

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verifying the integrity of the second partition; and

obtaining the result of a previous attempt to complete the boot process using the system image on the second partition.

20 28. The method of claim 27, wherein the logical step of restoring the system image on the at least one physical storage device is further comprised of:

reformatting the physical storage device;

recreating the first and second partitions on the storage device; and

installing the system image configuration on at least one of the first and second

25 partitions.

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29. A computer-readable medium having computer executable instructions for ensuring that a computer system boots to a known state, wherein the computer system has at least one physical storage device with at least a first and a second partition and only one of the at least first and second partitions can be an active partition, which, when  
5 executed, comprise:

determining whether the boot process can be completed from the first partition, wherein the first partition stores a system image and is the active partition;

designating the second partition the active partition if the boot process cannot be completed from the first partition; and

10 determining whether the boot process can be completed from the second partition, wherein the second partition stores a redundant copy of the system image on the first partition.

30. The computer-readable medium of claim 29, wherein the computer executable  
15 instructions for ensuring that the computer system boots to a known state, when executed, further comprise:

completing the process of booting the computer system to a known state using the redundant copy of the system image on the second partition.

20 31. The computer-readable medium of claim 29, wherein the computer executable instructions for ensuring that the computer system boots to a known state, when executed, further comprise:

restoring the system image on at least one of the first and second partitions if the boot process cannot be completed using the system image stored on either the first  
25 partition or the second partition.

32. The computer-readable medium of claim 31, wherein the computer executable instructions for ensuring that the computer system boots to a known state, when executed, further comprise:

5 completing the process of booting the computer system to a known state using the system image restored on the at least one of the first and second partitions.

33. A method for a computer system to boot itself to a known state in the event of a failure, the computer system having a physical storage device with at least a first partition and a second partition, each of the at least first and second partitions containing a  
10 redundant copy of a system image, the method comprising:

initiating a system boot process from a source other than the physical storage device;

determining if the computer system boot process can be completed using the system image on one of the first and second partitions; and

15 completing the process of booting the computer system using the system image on one of the at least first and second partitions that is determined from which the boot process can be completed.

34. The method of claim 33 further comprising restoring the system image on at least  
20 one of the first and second partitions if it is determined that the boot process cannot be completed using the system image on either of the first or second partitions.

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37 35. The method of claim 33, wherein the step of initiating a system boot process is implemented from an optical disk in an optical disk drive.

38 37. The method of claim 35, wherein the optical disk is a CD-ROM and the optical  
5 disk drive is a CD-ROM drive.

39 38. The method of claim 38, wherein the CD-ROM is a self bootable CD-ROM.

40 39. The method of claim 39, wherein the CD-ROM incorporates the El Torito  
10 Bootable CD-ROM Format Specification.

41 39. The method of claim 33, wherein the step of determining whether or not the  
computer system boot process can be completed using the system image on one of the  
first and second partitions is further comprised of:  
15 verifying the integrity of a Master Boot Record and the first partition.

42 41. The method of claim 41, wherein the step of determining whether or not the  
computer system boot process can be completed using the system image on one of the  
first and second partitions is further comprised of:  
20 obtaining the result of a previous attempt to complete the boot process using  
system image on the first partition; and  
attempting to complete the boot process using the system image on the first  
partition.

43 41. The method of claim 33, wherein the step of determining whether or not the  
25 computer system boot process can be completed using the system image on one of the  
first and second partitions is further comprised of:

verifying the integrity of the second partition.

44/42. The method of claim 41, wherein the step of determining whether or not the  
computer system boot process can be completed using the system image on one of the  
5 first and second partitions is further comprised of:

obtaining the result of a previous attempt to complete the boot process using the  
system image on the second partition; and

attempting to complete the boot process using the system image on the second  
partition.

10 35/43. The method of claim 34, wherein the step of restoring the system image on each  
of the first and second partitions is further comprised of:

reformatting the physical storage device;

recreating the first and second partitions on the storage device; and

15 installing the system image configuration on each of the first and second  
partitions.

36/44. The method of claim 34, further comprising:  
completing the process of booting the computer system using the restored system  
20 image on one of the first and second partitions;

determining which one of the first and second partitions the computer system  
completed the boot process from; and

generating a prompt indicative of the partition that the computer system  
25 completed the boot process from.

45. A method for a computer device to reliably boot itself to a known state, the computer device having a physical storage device with at least a first partition storing a system image, the method comprising:

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5 initiating a system boot process from a source other than the physical storage device;

determining whether or not the boot process can be completed using the system image on the physical storage device; and

restoring the system image on the physical storage device if the boot process cannot be completed from the physical storage device.

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46. The method of claim 45 further comprising completing the boot process from the restored system image on the physical storage device.

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47. The method of claim 45, wherein the step of initiating a system boot process is implemented from an optical disk in an optical disk drive.

48. The method of claim 47, wherein the optical disk is a CD-ROM and the optical disk drive is a CD-ROM drive.

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49. The method of claim 48, wherein the CD-ROM is a self bootable CD-ROM incorporating the El Torito Bootable CD-ROM Format Specification.

50. The method of claim 45, wherein the step of determining whether or not the boot process can be completed using the system image stored on the physical storage device is further comprised of:

verifying the integrity of a Master Boot Record and the first partition.

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51. The method of claim 50, wherein the step of determining whether or not the boot process can be completed using the system image on the physical storage device is further comprised of:

obtaining the result of a previous attempt to complete the boot process using the system image on the first partition; and

attempting to complete the boot process using the system image on the first partition.

52. The method of claim 45, wherein the step of restoring a system image on the physical storage device is further comprised of:

reformatting the physical storage device;

recreating the at least first partition on the storage device; and

installing the system image configuration on the at least first partition.

53. A computer system capable of reliably booting itself to a known state, comprising:

at least a first and a second computer readable storage device, each of the at least first

and second storage devices storing a system image, wherein the system image stored on

the second storage device is a redundant copy of the system image stored on the first

storage device; a file on the first storage device indicative of the status of a previous boot

process performed by the computer system; and a third computer readable storage device

for storing an initial boot specification, wherein a boot process is initiated using the boot specification stored on the third computer readable storage device.

54. The computer system of claim 53, further comprising a logic file containing  
5 logical steps comprising the boot process.

55. The computer system of claim 54, further comprising at least one program module for performing the logical steps comprising the boot process.

10 56. The computer system of claim 55, further comprising at least one program module for restoring the system image on at least one of the partitions.

57. The computer system of claim 56, wherein the logic file, the program module for performing the logical steps comprising the boot process, and the program module for  
15 restoring the system image are stored on the third computer readable storage device.

58. The computer system of claim 57, wherein the at least first and second computer readable storage device are hard disks and the third computer readable device is a CD-ROM.  
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59. A method for ensuring that a computing device can boot to a known state in the event that an error occurs as a result of a modification to a system image stored on the computing device, the computing device having a physical storage device with at least a first partition and a second partition, each of the first and second partitions containing a  
25 redundant copy of the system image, the method comprising:

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modifying the system image on the first partition such that the system image on the second partition is no longer redundant to the system image on the first partition;

initiating a system boot process from a source other than the physical storage device with the first and second partitions;

5 determining whether or not the computer system can complete the boot process using the modified system image on the first partition; and

completing the boot process using the system image on the second partition if the boot process cannot be completed using the modified system image on the first partition.

10 60. The method of claim 59, wherein the step of modifying the system image on the first partition is comprised of adding a service pack to the system image.

61. The method of claim 59, wherein the step of modifying the system image on the first partition is comprised of installing a later version of the system image.

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62. The method of claim 59, wherein the step of modifying the system image on the first partition is comprised of custom configuring the system image.

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